



#26

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Response  
J.M. Amick  
12/9/02

In re Patent Application of )  
Hisashi OHTANI et al. )  
Serial No. 09/226,216 )  
Filed: January 7, 1999 )  
For: SEMICONDUCTOR DEVICE AND )  
METHOD OF MANUFACTURING )  
THE SAME )

Art Unit: 2813  
Examiner: L. Schillinger

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with  
The United States Postal Service with sufficient postage as First  
Class Mail in an envelope addressed to: Commissioner for Patents,  
Washington, D.C. 20231, on 11-29-02

RESPONSE

Honorable Commissioner of Patents  
Washington, D.C. 20231

Sir:

The Final Official Action dated July 29, 2002 has been received and its contents carefully noted. Filed concurrently herewith is a *Request for a One Month Extension of Time* which extends the shortened statutory period for response to November 29, 2002. Accordingly, the Applicants respectfully submit that this response is being timely filed.

Applicants note with appreciation the consideration of the Information Disclosure Statements filed on June 9, 2000 and May 2, 2002. However, Applicant has not received acknowledgment of the Information Disclosure Statement filed on March 2, 1999. Applicant respectfully requests that the Examiner provide an initialed copy of the Form PTO-1449 evidencing consideration of these Information Disclosure Statements.

Claims 5-9, 16-18, 20-22, 24-38 and 40-44 are pending in the present application, of which claims 5, 7, 16, 20 and 40-44 are independent. For the reasons set forth in detail below, the claims are believed to be in condition for allowance. Favorable reconsideration is requested.

Paragraph 2 of the Official Action rejects claims 5-9, 16-18, 20-22, 24-38 and 40-44 as anticipated by U.S. Patent No. 5,923,997 to Mitnaga et al. The Applicants respectfully traverse the rejection. Mitnaga does not teach or suggest all the elements

of the independent claims, either explicitly or inherently.

The Official Action asserts that Mitnaga teaches a method comprising "removing the promoting material for crystallization from a surface of the semiconductor film after the heat treatment (Col. 17, lines: 30-60) ... wherein the promoting material comprises one or more elements selected from the group consisting of group 14 elements (Col. 3, lines: 40-50)" (p. 2, Paper No. 24). The Applicants respectfully disagree.


Mitnaga teaches forming a thin film of indium (group III) "which is a catalytic metal for crystallization in an exposed region 100" (col. 16, lines 65-66); forming an amorphous silicon film 104; injecting silicon (group IV) ions into the entire upper surface of the amorphous silicon film 104" (col. 17, lines 3-4); and crystallizing the amorphous silicon film 104 by heating (col. 17, lines 17-18). In Mitnaga, the promoting material is a thin film of indium (group III). Also, there is no teaching or suggestion in Mitnaga for removal of indium from a surface of the semiconductor film after the heat treatment.

Mitnaga also discloses that "a crystal component ... which becomes a nucleus of the crystal growth mostly existing on the interface between the substrate and the amorphous silicon film is removed by injecting the silicon ions as described above" (col. 17, lines 22-27). The crystal component of Mitnaga is not a crystallization promoting material. Furthermore, there is no discussion or suggestion of removal of the silicon ions from a surface of the semiconductor film after the heat treatment. Since Mitnaga does not teach or suggest all the elements of the independent claims, either explicitly or inherently, an anticipation rejection cannot be maintained.

For the reasons stated above, the Official Action has not formed a proper anticipation rejection. Accordingly, reconsideration and withdrawal of the rejection of independent claims 5, 7, 16, 20 and 40-44 under 35 U.S.C. § 102(e) is in order and respectfully requested. Likewise, it is believed that dependent claims 6, 8, 9, 17, 18, 21, 22 and 24-38 are allowable in that they depend from what is believed to be allowable base claims 5, 7, 16, 20.

Should the Examiner believe that anything further would be desirable to place this application in better condition for allowance, the Examiner is invited to contact Applicant's undersigned attorney at the telephone number listed below.

Respectfully submitted,

---

Eric J. Robinson  
Reg. No. 38,285

Robinson Intellectual Property Law Office, P.C.  
PMB 955  
21010 Southbank Street  
Potomac Falls, Virginia 20165  
(571) 434-6789



28139

PTO/SB/21 (08-00)

# TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Application Number	09/226,216
Filing Date	January 7, 1999
First Named Inventor	Hisashi OHTANI et al.
Group Art Unit	2813
Examiner Name	L. Schillinger
Total Number of Pages in This Submission	Attorney Docket Number 0756-1921

## ENCLOSURES (check all that apply)

<input type="checkbox"/> Fee Transmittal Form <input checked="" type="checkbox"/> Fee Attached <input checked="" type="checkbox"/> Amendment / Reply <input checked="" type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input checked="" type="checkbox"/> Extension of Time Request <input type="checkbox"/> Express Abandonment Request <input type="checkbox"/> Information Disclosure Statement <input type="checkbox"/> Certified Copy of Priority Document(s) <input type="checkbox"/> Response to Missing Parts/ Incomplete Application <input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Assignment Papers (for an Application) <input type="checkbox"/> Drawing(s) <input type="checkbox"/> Declaration and Power of Attorney <input type="checkbox"/> Licensing-related Papers <input type="checkbox"/> Petition <input type="checkbox"/> Petition to Convert to a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund <input type="checkbox"/> CD, Number of CD(s) _____	<input type="checkbox"/> After Allowance Communication to Group <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input type="checkbox"/> Appeal Communication to Group (Appeal Notice, Brief, Reply Brief) <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input type="checkbox"/> Other Enclosures 1. 2. 3. 4. 5. 6.
<b>Remarks</b> <input checked="" type="checkbox"/> The Commissioner is hereby authorized to charge any additional fees required or credit any overpayments to Deposit Account No. 50-2280 for the above identified docket number.		

RECEIVED  
DEC -5 2002  
TECHNOLOGY CENTER 2800

## SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm or Individual name	Eric J. Robinson, Reg. No. 38,285 Robinson Intellectual Property Law Office, P.C. PMB 955 21010 Southbank Street Potomac Falls, VA 20165
Signature	
Date	November 29, 2002

## CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, Washington, DC 20231 on the date indicated below.			
Type or printed name	Eric J. Robinson		
Signature		Date	November 29, 2002

Burden Hour Statement: This form is estimated to take 0.2 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Washington, DC 20231.